REMARKS

Claims 1, 15 and 25 are amended. Claims 32 and 33 are added. Claims 1, 3-20, 22, 24-26 and 28-33 will be pending upon entry of this amendment.

Claim 1 is amended to correct a grammatical error. Claim 15 is amended to correct inadvertent errors. As disclosed in the application (Fig. 1; page 8, lines 15-16), the valve connector 28 is on the ankle portion of the sleeve, not the calf portion. Claim 25 is amended to correct a typographical error.

This communication is intended to confirm and supplement applicants' Letter to the Patent and Trademark Office filed September 15, 2009, and further to address the Advisory Action dated September 28, 2009 in which the examiner withdraws Shah et al. (US 6,984,215) as a prior art reference, and further cites Arkans (US 6,358,219) as teaching cutting away a foot portion away from a calf portion of a compression device to destroy a connection between two parts.

ARKANS '219

Arkans '219 discloses a compression device having foot and calf sections which may be separated by cutting through an attachment 38 (Fig. 1; col. 6, lines 59-64). However, there is no disclosure of at least three features of applicant's invention.

First, Arkans '219 fails to show or suggest perforations for tearing one portion of a compression device from another portion, as claimed by applicants.

Second, Arkans '219 fails to disclose or suggest the use of the same connector for connecting a pressurized fluid source to the first, second and third expandable chambers of a compression device, as claimed by applicants. The inflatable bladders in the Arkans device are inflated using separate fittings 40 (Fig. 2) and 56 (Fig. 3) which are not shown as being connected in any way. Nor would it have been obvious to connect the two fittings to a pressurized fluid source using the same connector, since this arrangement would be problematic in the event one of the portions of the device was removed from the leg. For example, how could the tube connecting the pressurized fluid source to the fitting 40/56 of the removed portion of the device be disconnected from the connector without interfering with the continued inflation of the other portion of the device

remaining on the leg? For at least this reason, one of ordinary skill would use separate connectors for connecting the pressurized fluid source to the fittings 40, 56.

And third, there is no disclosure or suggestion in the '219 patent that removal of one portion of the device would allow the remaining portion of the device to carry out sequential compression using two bladders arranged lengthwise of the limb. In the preferred embodiment disclosed in Arkans, each of the calf and ankle portions has only one bladder. Arkans makes a general statement about the possibility of using more than one bladder in each of the calf and ankle portions, but there is no disclosure that these bladders are arranged lengthwise of the limb for carrying out sequential compression. (See disclosure in the paragraph bridging columns 8 and 9 of the patent.)

RESPONSE TO GROUNDS FOR REJECTION IN FINAL OFFICE ACTION

Claims 1, 3-7, 11-13, and 18-20 are Not Obvious in view of either Rotta (US 3,862,629) or Lee et al. (US 3,826,249) and Islava (US 6,719,711)

Claims 1, 3-7, and 11-13

Claim 1 is an independent claim, and claims 3-7, and 11-13 depend either directly or indirectly from claim 1.

Claim 1 is directed to a compression apparatus for carrying out sequential compression vascular therapy on a limb of a patient. The apparatus comprises a sleeve configured for disposal about a limb and having boundary edges. The sleeve includes a first portion defining a first expandable chamber and a second portion defining a second expandable chamber and a third expandable chamber. The first, second and third expandable chambers are arranged with respect to each other lengthwise along the sleeve to move blood lengthwise of the limb. The second portion of the sleeve includes a connector for fluidly connecting a pressurized fluid source to the first expandable chamber, the second expandable chamber and the third expandable chamber whereby fluid can be delivered from the pressurized fluid source to the chambers to carry out vascular therapy. The first portion of the sleeve is completely removable from the second portion of the sleeve. Perforations in the sleeve extend continuously across the sleeve from adjacent one boundary edge of the sleeve to adjacent an opposite boundary edge of

the sleeve. The first and second portions of the sleeve are located on opposite sides of the perforations whereby the sleeve may be torn along the perforations to completely remove the first portion of the sleeve from the second portion of the sleeve while leaving the second portion of the sleeve intact for delivery of fluid from the pressurized source to the second and third expandable chambers arranged with respect to each other lengthwise along the sleeve to permit sequential compression vascular therapy on the limb after the first portion of the sleeve is removed. The prior art fails to show or suggest this unique construction.

Rotta discloses a compression device in which a series of inflatable modular units can be plugged together using valve means 14 to make a compression device of any desired length.

Lee et al. discloses an inflatable compression device that includes a series of inflatable wrappings which can be inter-locked by hooks 16 to provide the desired length.

The Islava patent is directed to an inflatable splint which is used to immobilize a broken limb such as an arm. The Islava device has two or more rows of latitudinal air chambers 22 which are inflated by conventional blow spout 18. The rows of chambers are separated by perforated welds 40, 42 along which the splint may be torn partially across the splint to form two U-structures which can be used as shown in Figs. 3 and 4. The U-structures thus formed remain connected by a central hinge area 29 of the splint. Unlike applicants' claimed design where the perforations extend continuously across the sleeve to allow a first portion of the sleeve to be completely removed, the emphasis in Islava is toward only a partial tearing of the splint along the perforated weld 40, 42. In this way, a center portion 29 of the splint remains intact so that it can function as a hinge. See for example column 4, lines 1-5, stating that in the preferred embodiment, the latitudinal welds do not extend across the entire width of the splint so that a center portion of the splint remains undivided; column 4, lines 49-61, stating that the center portion shown in Fig. 1a serves as a flexure upon which the two U-shaped portions 50, 60 bend toward or away from one another; and column 6, lines 27-29, stating that the non-welded center sections 29 shown in Fig. 6 serve to couple the rows 50, 60, 90 of air chambers together and thus keep the splint as "one integral piece."

The examiner contends it would have been obvious to modify the compression device in either Rotta or Lee et al. to use perforations as taught by Islava. Applicants disagree. As to Islava, the express purpose of Islava's splint is to immobilize and stabilize an injured limb, particularly a bent limb, as shown in Figs. 3 and 4 (see col. 1, lines 54-61; col. 5, lines 1-5). To do this, the splint is designed to "encompass" and "envelop" the joint after the splint is partially torn (see col. 4, lines 27-31 and col. 5, lines 18-21). Clearly, the hinge portion 29 assists in achieving these objectives, i.e., immobilizing, stabilizing, encompassing and enveloping the joint after the splint is partially torn to form two U-structures. On the other hand, tearing through the hinge portion 29 and thus destroying it would eliminate the ability of the splint to immobilize, stabilize, encompass and envelop the injured limb at the joint.

Moreover, the skilled person would recognize that if Islava's perforated weld 40 were extended to run continuously across the splint from one side of the splint to an opposite side of the splint, i.e., through the hinge 29, the splint could not be properly inflated because the weld 40 would block the flow of air into the air chambers located on the side of the weld opposite the blow spout 18. Alternatively, if an air passage was provided across the weld to allow inflation of all air chambers, then tearing along the perforations would breach the passage and the entire splint would deflate. In short, any attempt to extend the perforated weld 40 completely across the splint would render the splint inoperable for its intended purpose. (See MPEP 2143.01(V) stating that "If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.) For this additional reason, Islava cannot possibly teach a complete separation of the portions 50, 60 from one another.[1]

Still further, patentability is supported by the fact that the claimed invention has achieved a surprising result. Specifically, applicants have invented a compression sleeve

[1] Islava states in column 4, lines 21-24, that "If a single latitudinal weld 40 were provided to extend across the entire width of the splint, the perforation may also extend through the entire width of the splint 10." However, there is no disclosure that any such perforated weld would be "continuous", as claimed by applicants, or that any such perforated weld could be used to completely remove one section of the splint from another section. On the contrary, as discussed above, the patent emphasizes the importance of keeping the un-welded center portion of the splint intact so that it can function as a hinge. Further, as discussed above, a continuous weld completely across the splint would create a non-functional product.

that is intentionally designed to have a first portion of the sleeve torn from a second portion of the sleeve, thereby irreversibly destroying the unity of the sleeve, while still leaving the second portion intact and capable of carrying out sequential compression on the limb of a patient, and while still using the same connector both before and after the sleeve is torn. The surprising and unpredictable nature of this result is strong evidence of non-obviousness. *KSR International Co. v. Teleflex Inc.*

Further, this surprising result is not found in the Arkans '219 patent cited by the examiner in the Advisory action. As explained above, Arkans '219 fails to show or suggest applicants' claimed perforations, or the use of the same connector to connect a pressurized fluid source to the separable first and second portions of a compression sleeve, or multiple expansion chambers arranged for sequential compression in a second portion of the compression sleeve remaining on the limb after a first portion has been torn away.

The benefits of the present invention include greater comfort for the patient and reduced cost to the hospital. With the tear-away perforations of the present invention, there is no need for the hospital to replace the full-length sleeve with a new knee-length sleeve. The patient can use the same sleeve (with the thigh portion removed) to complete the prescribed sequential compression vascular therapy. Removal of a portion of the sleeve also increases the comfort and mobility of the patient. These advantages further support the non-obviousness of the claimed invention.

Claims 18-20

Claim 18 is an independent claim, and claims 19-20 depend from claim 18.

Claim 18 is directed to a method of performing sequential compression on the limb of a body. The method includes a number of steps, including the steps of: disposing the sleeve about the limb; delivering pressurized fluid to the first inflatable chamber, the second inflatable chamber and the third inflatable chamber to inflate the chambers in a sequence for moving blood lengthwise of the limb; completely removing the first portion of the sleeve from the second portion of the sleeve by tearing the sleeve along perforations in the sleeve; and delivering a pressurized fluid to inflate the second and

third inflatable chambers in a sequence for moving blood lengthwise of the limb after the first portion of the sleeve is removed from the second portion of the sleeve.

As explained above in regard to claim 1, Rotta, Lee et al., and Islava fail to show or suggest the method of claim 18. In this regard, Rotta and Lee et al. do not show "tearing" of any type, and Islava teaches only partial tearing of an inflatable splint while maintaining a hinge area (e.g., area 29 in Fig. 1b) intact so that it can function as a hinge connecting the partially-torn splint portions. Further, as explained previously, any attempt to tear completely across the sleeve would deflate the splint and render it inoperable for its intended purpose. (See MPEP 2143.01(V) stating that "If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.) Thus, Islava actually teaches away from applicants' claimed step of completely removing a first portion of a sleeve from a second portion of the sleeve by tearing along perforations in the sleeve. Still further, the express purpose of Islava's splint is to immobilize and stabilize an injured limb (see col. 1, lines 54-61; col. 5, lines 1-5) particularly a bent limb (col. 1, line 58), not to perform sequential compression in accordance with applicants' claimed method. Thus, as a threshold matter, the skilled person would not view the teachings of Islava as even being relevant to applicants' claimed method.[2]

Further, Arkans '219 fails to show or suggest the invention of claim 18 for the same reasons explained above in regard to claim 1.

Claims 8-10, 14-17, 22, 24-26, and 28 are Not Obvious in view of either Rotta (US 3,862,629) or Lee et al. (US 3,826,249) in combination with Islava (US 6,719,711) and further in view of Dye (US 5,795,312).

Claims 8-10 and 28

Claims 8-10 and 28 depend, either directly or indirectly, from claim 1 and are allowable for the same reasons as claim 1. In regard to Dye, this reference shows a compression sleeve with a plurality of longitudinally disposed inflatable chambers 38a-

[2] The additional arguments supporting patentability (e.g., surprising result and benefits) expressed above in regard to claim 1 are equally applicable to claim 18. These arguments are not repeated here for the sake of brevity.

38f. However, Dye fails to disclose perforations extending continuously across the sleeve so that the sleeve can be torn along the perforations to completely remove one portion of the sleeve from another portion of the sleeve.

Further, regarding claim 10, the cited art fails to show or suggest a slit (e.g., vent slit 50 in Fig. 1 of the application) disposed between the second expandable chamber and the third expandable chamber.

Claim 14

Claim 14 depends from claim 1 and is allowable for the same reasons as claim 1.

In addition, claim 14 states that the first and second portions of the sleeve are connected by a flexible section of reduced width having a knee opening therein, and that the perforations extend across the flexible section at a location below the knee opening. (See Fig. 1 of the application, where the perforations are shown at 32 extending below the knee opening. The knee opening is numbered 81 in the replacement Fig. 1 submitted with the amendment filed December 17, 2008.) Rotta, Lee et al. and Islava fail to show a sleeve having a knee opening of any type. Dye discloses a compression sleeve having a knee opening 16, but Dye does not disclose applicants' claimed perforations, or where such perforations should be located relative to the knee opening. Accordingly, for this additional reason, the combination of Rotta, Lee et al., Islava and Dye cannot make the subject matter of claim 14 obvious.

Claims 15 and 16

Claim 15 is an independent claim, and claim 16 depends from claim 15.

Claim 15 is directed to a compression apparatus for carrying out sequential compression vascular therapy on a patient. The apparatus comprises a sleeve configured to wrap about a leg and having boundary edges. The sleeve includes a thigh portion defining a first inflatable chamber having sub-chambers, a calf portion defining a second inflatable chamber having sub-chambers, and an ankle portion defining a third inflatable chamber having sub-chambers. The first, second and third inflatable chambers are arranged with respect to each other lengthwise along the sleeve to move blood lengthwise of the limb. The ankle portion of the sleeve includes a valve connector that for fluidly

connecting a pressurized fluid source to the chambers via a tubular pathway, and the pressurized fluid is delivered from the pressurized fluid source to the various chambers to carry out vascular therapy. The tubular pathway comprises first tubing extending from the valve connector and fluidly connecting to the first expandable chamber, second tubing extending from the valve connector and fluidly connecting to the second expandable chamber, and third tubing extending from the valve connector and fluidly connecting to the third expandable chamber. The thigh portion of the sleeve is removably connected to the calf portion of the sleeve via perforations in the sleeve extending continuously across the sleeve from adjacent one boundary edge of the sleeve to adjacent an opposite boundary edge of the sleeve. The thigh and calf portions of the sleeve are located on opposite sides of the perforations whereby the sleeve may be torn along the perforations to completely remove the thigh portion from the calf portion while leaving the calf and ankle portions of the sleeve intact for delivery of fluid from said pressurized source to said second and third inflatable chambers arranged with respect to each other lengthwise along the sleeve to permit sequential compression vascular therapy on said limb after said thigh portion of the sleeve is removed. The first tubing of the tubular pathway is removable from the valve connector when the thigh portion is removed from the calf portion. The second tubing and third tubing remains attached to the valve connector when the thigh portion is removed from the calf portion to permit sequential inflation of the second and third inflatable chambers after said thigh portion of the sleeve is removed.

Claim 15 is similar to claim 1 in that it requires perforations in the sleeve along which the sleeve can be torn to completely remove one portion of the sleeve from another portion of the sleeve. Thus, claim 15 is allowable over Rotta, Lee et al., and Islava for the same reasons expressed above regarding claim 1. For the sake of brevity, these same reasons are not repeated here. Regarding Dye, this reference shows a compression sleeve with a plurality of longitudinally disposed inflatable chambers 38a-38f. However, Dye fails to disclose perforations extending across the sleeve for allowing one portion of the sleeve to be torn completely from another portion of the sleeve.

Clearly, therefore, claims 15 and 16 are allowable over the cited art.

Claim 17

Claim 17 depends from claim 15 and is allowable for the same reasons as claim 15.

Further, claim 17 states that the thigh and calf portions of the sleeve are connected by a flexible section of reduced width having a knee opening therein, and that the perforations extend across the flexible section at a location below the knee opening. (See Fig. 1 of the application, where the perforations are shown at 32 extending below the knee opening. The knee opening is numbered 81 in the replacement Fig. 1 submitted with the amendment filed December 17, 2008.) Rotta, Lee et al. and Islava fail to show a sleeve having a knee opening of any type. Dye discloses a compression sleeve having a knee opening 16, but Dye does not disclose applicants' claimed perforations, or where such perforations should be located relative to the knee opening. Accordingly, for this additional reason, the combination of Rotta, Lee et al., Islava and Dye cannot make the subject matter of claim 17 obvious.

Claim 22

Claim 22 is directed to a compression apparatus for carrying out sequential compression vascular therapy on a patient. The apparatus comprises an expandable sleeve configured for disposal about a leg, the sleeve having boundary edges. The sleeve extends a length from below a knee of the leg to above the knee. The sleeve is convertible from the length extending from below the knee to above the knee, to a length extending solely below the knee by tearing an inflatable thigh portion of the sleeve completely away from inflatable calf and ankle portions of the sleeve along perforations in the sleeve extending continuously across the sleeve from adjacent one boundary edge of the sleeve to adjacent an opposite boundary edge of the sleeve. The perforations are configured such that the calf and ankle portions of the sleeve remain intact after the thigh portion is torn away to permit sequential inflation of the calf and ankle portions whereby sequential compression vascular therapy on the patient can be carried out after the thigh portion of the sleeve is removed.

Claim 22 is similar to claim 1 in that it requires perforations in the sleeve along which the sleeve can be torn to completely remove one portion of the sleeve from another

portion of the sleeve. Thus, claim 22 is allowable over Rotta, Lee et al., and Islava for the same reasons expressed above regarding claim 1. For the sake of brevity, these same reasons are not repeated here. Regarding Dye, this reference shows a compression sleeve with a plurality of longitudinally disposed inflatable chambers 38a-38f. However, Dye fails to disclose perforations extending across the sleeve for allowing one portion of the sleeve to be torn completely from another portion of the sleeve.

Further, Arkans '219 fails to show or suggest the invention of claim 22 for at least the reasons that there is no disclosure of perforations for tearing one portion of a compression device from another portion, and no disclosure of performing sequential inflation of calf and ankle portions of a compression sleeve after such tearing.

Clearly, therefore, claim 22 is allowable over the cited art.

Claim 24

Claim 24 depends from claim 22 and is allowable for the same reasons as claim 22.

In addition, claim 24 states that the thigh and calf portions of the sleeve are connected by a flexible section of reduced width having a knee opening therein, and that the perforations extend across the flexible section at a location below the knee opening. (See Fig. 1 of the application, where the perforations are shown at 32 extending below the knee opening. The knee opening is numbered 81 in the replacement Fig. 1 submitted with the amendment filed December 17, 2008.) Rotta, Lee et al. and Islava fail to show a sleeve having a knee opening of any type. Dye discloses a compression sleeve having a knee opening 16, but Dye does not disclose applicants' claimed perforations, or where such perforations should be located relative to the knee opening. Accordingly, for this additional reason, the combination of Rotta, Lee et al., Islava and Dye cannot make the subject matter of claim 24 obvious.

Claim 25

Claim 25 is directed to a method of performing sequential compression on a limb of a body comprising the steps of: providing an expandable sleeve configured for disposal about a leg; disposing the sleeve about the limb such that the sleeve extends a

length from below a knee of the leg to above the knee; sequentially delivering pressurized fluid to inflatable ankle, calf and thigh portions of the sleeve to move blood lengthwise of the limb of the patient; deflating the ankle, calf and thigh portions of the sleeve; and converting the sleeve from the length extending from below the knee to above the knee, to a length extending solely below the knee by tearing the sleeve along perforations in the sleeve to completely remove the thigh portion of the sleeve extending above the knee, the perforations being configured such that the calf and ankle portions of the sleeve remain intact after the thigh portion is torn away to permit sequential inflation of the calf and ankle portions after said thigh portion of the sleeve is removed.

Claim 25 is similar to claim 18 in that it requires complete removal of one portion of a sleeve from another by tearing along perforations in the sleeve. Thus, claim 25 is allowable over Rotta, Lee et al., and Islava for the same reasons expressed above regarding claim 18. For the sake of brevity, these same reasons are not repeated here. Regarding Dye, this reference shows a compression sleeve with a plurality of longitudinally disposed inflatable chambers 38a-38f. However, Dye fails to disclose perforations extending across the sleeve for allowing one portion of the sleeve to be torn completely from another portion of the sleeve.

Further, Arkans '219 fails to show or suggest the invention of claim 25 for at least the same reasons as claim 18, i.e., there is no disclosure of perforations for tearing one portion of a compression device from another portion, and no disclosure of performing sequential inflation of calf and ankle portions of a compression sleeve after such tearing.

Clearly, therefore, claim 25 is allowable over the cited art.

Claim 26

Claim 26 depends from claim 22 and is allowable for the same reasons as claim 22.

Further, claim 26 states that the thigh and calf portions of the sleeve are connected by a flexible section of reduced width having a knee opening therein, and that the perforations extend across the flexible section at a location below the knee opening. (See Fig. 1 of the application, where the perforations are shown at 32 extending below the knee opening. The knee opening is numbered 81 in the replacement Fig. 1 submitted

with the amendment filed December 17, 2008.) Rotta, Lee et al. and Islava fail to show a sleeve having a knee opening of any type. Dye discloses a compression sleeve having a knee opening 16, but Dye does not disclose applicants' claimed perforations, or where such perforations should be located relative to the knee opening. Accordingly, for this additional reason, the combination of Rotta, Lee et al., Islava and Dye cannot make the subject matter of claim 26 obvious.

Claims 29-31 are Not Obvious in view of either Rotta (US 3,862,629) or Lee et al. (US 3,826,249) and Islava (US 6,719,711) and further in view of Mitchell (US 2,638,915).

Claim 29

Claim 29 is directed to a compression apparatus adapted for inflation and deflation by a pressurized fluid source for carrying out sequential compression vascular therapy on a patient. The apparatus comprises a sleeve configured for disposal about a limb and having boundary edges. The sleeve includes a first portion defining a first expandable chamber and a second portion defining a second expandable chamber and a third expandable chamber, the first, second and third expandable chambers being arranged with respect to each other lengthwise along the sleeve to move blood lengthwise of the limb. The second portion of the sleeve includes a connector for fluidly connecting the pressurized fluid source to the first expandable chamber, the second expandable chamber and the third expandable chamber. The fluid is delivered from the pressurized fluid source to said chambers to carry out vascular therapy. Perforations in the sleeve extend continuously across the sleeve from adjacent one boundary edge of the sleeve to adjacent an opposite boundary edge of the sleeve. The first and second portions of the sleeve are located on opposite sides of the perforations. The sleeve is torn along the perforations to completely remove the first portion of the sleeve from the second portion of the sleeve while leaving the second portion of the sleeve intact for delivery of fluid from the pressurized source to the second and third expandable chambers arranged with respect to each other lengthwise along the sleeve to permit sequential compression vascular therapy on the limb after the first portion of the sleeve is removed. The apparatus also includes first tubing extending from the connector and fluidly connecting to the first expandable chamber, second tubing extending from the connector and fluidly

connecting to the second expandable chamber, and third tubing extending from the connector and fluidly connecting to the third expandable chamber. The first tubing comprises a quick disconnect port communicating with a fluid port in said connector permitting easy removal of the first tubing from a downstream side of the connector when the first portion of the sleeve is completely removed from the second portion of the sleeve. The second tubing and the third tubing remain attached to the connector when the first portion of the sleeve is removed from the second portion of the sleeve. The connector comprises a valve for partially closing the fluid port when the first tubing is removed from the connector. The fluid continues to flow from the fluid port such that the inflation and deflation by the pressurized fluid source is able to continue without interruption.

Claim 29 is similar to claim 1 in that it requires perforations in the sleeve along which the sleeve can be torn to completely remove one portion of the sleeve from another portion of the sleeve, and that the portion remaining on the leg (the "second portion") is configured for delivery of fluid from the pressurized source to the second and third expandable chambers arranged with respect to each other lengthwise along the sleeve to permit sequential compression vascular therapy on the limb after the first portion of the sleeve is removed. Thus, claim 29 is allowable over Rotta, Lee et al., and Islava for the same reasons expressed above regarding claim 1. For the sake of brevity, these same reasons are not repeated here. Regarding Mitchell, this reference fails to show tearing a compression sleeve along perforations, as claimed.

The examiner cites Mitchell as teaching (in Fig. 1) a connector in which the downstream tubular pathways 14, 18 have quick disconnect ports 60 for individually disconnecting the downstream tubular pathways as desired or required. However, Mitchell fails to show or suggest the same connector connecting a first tubing, a second tubing and a third tubing to respective expandable chambers, as required by claim 29. Further, when the disconnect ports 60 are disconnected from the coupling unit 10, the valve members 98, 140 close to seal the coupling sections 59, 60 and the detached conduit sections 12, 14 (column 8, lines 60-64). There is no flow through the closed valve members 98 after disconnection. This is in direct contradiction to claim 29 which states that the connector comprises a fluid port and a valve for only partially closing the

fluid port when the first tubing leading to the tear-away portion of the sleeve is removed from the connector.

Applicants' claimed partial-closure feature is advantageous because it allows continued flow through the port vacated by the first tubing to maintain continuity with the pressurized fluid source so that vascular therapy can continue without interruption after the first portion of the sleeve is removed by tearing along the perforations. In this regard, feedback information to the controller is necessary to achieve proper operation. If a portion of the sleeve is removed, this feedback is interrupted and would normally cause the controller to discontinue operation. However, when the sleeve is equipped with the valve connector of claim 29, pressurized fluid continues to flow through the fluid port even after a portion of the sleeve is torn away and the associated tubing is disconnected from the fluid port of the connector. This continued flow simulates the flow characteristics prior to such disconnection so that the controller continues to operate as if the disconnection had not occurred. (For further details of this valve connection, see page 8, lines 15-21, and page 12, lines 6-15 of the present application. See also Application Ser. No. 10/784,639, published August 25, 2005 as Publication No. 2005/01842645, incorporated by reference in this application). There is no disclosure or suggestion of this feature in the cited prior art.

Clearly, therefore, claim 29 is allowable over the cited art.

Claim 30

Claim 30 depends from claim 29 and is allowable for the same reasons as claim 29.

Further, claim 30 states that the valve is movable when the first tubing is removed from the connector to reduce fluid flow from the pressurized fluid source through the fluid port to a level approximating flow to the first expandable chamber prior to removal of the first portion of the sleeve from the second portion of the sleeve. This feature is advantageous because it maintains continuity with the pressurized fluid source so that vascular therapy can continue without interruption after the first portion of the sleeve is removed by tearing along the perforations. (See page 12, lines 6-15 of the present

application.) There is no disclosure or suggestion of this feature in the cited prior art, including Mitchell.

Claim 31

Claim 31 depends from claim 29 and is allowable for the same reasons as claim 29.

In addition, claim 31 states that the first and second portions of the sleeve are connected by a flexible section of reduced width having a knee opening therein, and that the perforations extend across the flexible section at a location below the knee opening. (See Fig. 1 of the application, where the perforations are shown at 32 extending below the knee opening. The knee opening is numbered 81 in the replacement Fig. 1 submitted with the amendment filed December 17, 2008.) Rotta, Lee et al., Islava and Mitchell fail to show a sleeve having a knee opening of any type, much less a knee opening and perforations located as set forth in claim 31 relative to the knee opening. Accordingly, for this additional reason, the combination of Rotta, Lee et al., Islava and Mitchell cannot make the subject matter of claim 31 obvious

Claims 1, 3-11, 13-20, 22, 24-26, and 28-31 are Not Obvious in view of Dye (US 5,795,312) in view of either Rotta (US 3,862,629) or Lee et al. (US 3,826,249) and Islava (US 6,719,711) and further in view of Arkans (US 6,062,244).

Claims 1, 3-11, and 13

Claim 1 is an independent claim, and claims 3-11 and 13 depend either directly or indirectly from claim 1. These claims are argued as a group.

Claim 1 is directed to a compression apparatus for carrying out sequential compression vascular therapy on a limb of a patient. The apparatus comprises a sleeve configured for disposal about a limb and having boundary edges. The sleeve includes a first portion defining a first expandable chamber and a second portion defining a second expandable chamber and a third expandable chamber. The first, second and third expandable chambers are arranged with respect to each other lengthwise along the sleeve to move blood lengthwise of the limb. The second portion of the sleeve includes a connector for fluidly connecting a pressurized fluid source to the first expandable

chamber, the second expandable chamber and the third expandable chamber whereby fluid can be delivered from the pressurized fluid source to the chambers to carry out vascular therapy. The first portion of the sleeve is completely removable from the second portion of the sleeve. Perforations in the sleeve extend continuously across the sleeve from adjacent one boundary edge of the sleeve to adjacent an opposite boundary edge of the sleeve. The first and second portions of the sleeve are located on opposite sides of the perforations whereby the sleeve may be torn along the perforations to completely remove the first portion of the sleeve from the second portion of the sleeve while leaving the second portion of the sleeve intact for delivery of fluid from the pressurized source to the second and third expandable chambers arranged with respect to each other lengthwise along the sleeve to permit sequential compression vascular therapy on the limb after the first portion of the sleeve is removed. The claimed apparatus is patentable over the cited art.

Dye discloses a compression sleeve with a plurality of longitudinally disposed inflatable chambers 38a-38f. Dye fails to disclose perforations extending across the sleeve for allowing one portion of the sleeve to be torn completely from another portion of the sleeve.

Rotta discloses a compression device in which a series of inflatable modular units can be plugged together using valve means 14 to make a compression device of any desired length.

Lee et al. discloses an inflatable compression device that includes a series of inflatable wrappings which can be inter-locked by hooks 16 to provide the desired length.

As explained above, the Islava patent is directed to an inflatable splint which is used to immobilize a broken limb such as an arm. The Islava device has two or more rows of latitudinal air chambers 22 which are inflated by conventional blow spout 18. The rows of chambers are separated by perforated welds 40, 42 along which the splint may be torn partially across the splint to form two U-structures which can be used as shown in Figs. 3 and 4. The U-structures thus formed remain connected by a central hinge area 29 of the splint. Unlike applicants' claimed design where the perforations extend continuously across the sleeve to allow a first portion of the sleeve to be completely removed, the emphasis in Islava is toward only a partial tearing of the splint

along the perforated weld 40, 42. In this way, a center portion 29 of the splint remains intact so that it can function as a hinge. See for example column 4, lines 1-5, stating that in the preferred embodiment, the latitudinal welds do not extend across the entire width of the splint so that a center portion of the splint remains undivided; column 4, lines 53-61, stating that the center portion shown in Fig. 1a serves as a flexure upon which the two U-shaped portions 50, 60 bend toward or away from one another; and column 6, lines 27-29, stating that the non-welded center sections 29 shown in Fig. 6 serve to couple the rows 50, 60, 90 of air chambers together and thus keep the splint as "one integral piece."

The examiner contends that it would have been obvious in view of either Rotta or Lee et al. to separate different parts of Dye's sleeve from one another in order to accommodate different needs of different patients, and that it would have been obvious in view of Islava et al. to separate the parts by using perforations. Applicants disagree.

As explained above, the express purpose of Islava's splint is to immobilize and stabilize an injured limb, particularly a bent limb as shown in Figs. 3 and 4 (see col. 1, lines 54-61; col. 5, lines 1-5). To do this, the splint is designed to "encompass" and "envelop" the joint after the splint is partially torn (see col. 4, lines 27-31 and col. 5, lines 18-21). Clearly, the hinge portion 29 assists in achieving these objectives, i.e., immobilizing, stabilizing, encompassing and enveloping the joint after the splint is partially torn to form two U-structures. On the other hand, tearing through the hinge portion 29 and thus destroying it would eliminate the ability of the splint to immobilize, stabilize, encompass and envelop the injured limb at the joint.

Moreover, the skilled person would recognize that if Islava's perforated weld 40 were extended to run continuously across the splint from one side of the splint to an opposite side of the splint, i.e., through the hinge 29, the splint could not be properly inflated because the weld 40 would block the flow of air into the air chambers located on the side of the weld opposite the blow spout 18. Alternatively, if an air passage was provided across the weld to allow inflation of all air chambers, then tearing along the perforations would breach the passage and the entire splint would deflate. In short, any attempt to extend the perforated weld 40 completely across the splint would render the splint inoperable for its intended purpose. (See MPEP 2143.01(V) stating that "If proposed modification would render the prior art invention being modified unsatisfactory

for its intended purpose, then there is no suggestion or motivation to make the proposed modification.)[3] Thus, Islava actually teaches away from modifying Dye as the examiner contends.[4]

The examiner also cites the Arkans '244 patent, but Arkans is completely devoid of any teaching of a perforation to tear a first sleeve portion from a second sleeve portion. Accordingly, this reference adds nothing to the teachings of Dye, Rotta, Lee et al. and Islava regarding applicants' invention as set forth in claim 1.

Regarding Arkans '219, this patent fails to teach applicants' invention for the reasons previously explained in regard to claim 1.

Claim 14

Claim 14 depends from claim 1 and is allowable for the same reasons as claim 1.

In addition, claim 14 states that the first and second portions of the sleeve are connected by a flexible section of reduced width having a knee opening therein, and that the perforations extend across the flexible section at a location below the knee opening. (See Fig. 1 of the application, where the perforations are shown at 32 extending below the knee opening. The knee opening is numbered 81 in the replacement Fig. 1 submitted with the amendment filed December 17, 2008.) Rotta, Lee et al., Islava and Arkans fail to show a sleeve having a knee opening of any type. Dye discloses a compression sleeve having a knee opening 16, but Dye does not disclose applicants' claimed perforations, or where such perforations should be located relative to the knee opening. Accordingly, for this additional reason, the combination of Dye, Rotta, Lee et al., Islava and Arkans cannot make the subject matter of claim 14 obvious.

---

[3] Islava states in column 4, lines 21-24, that "If a single latitudinal weld 40 were provided to extend across the entire width of the splint, the perforation may also extend through the entire width of the splint 10." However, there is no disclosure that any such perforated weld would be "continuous", as claimed by applicants, or that any such perforated weld could be used to completely remove one section of the splint from another section. On the contrary, as discussed above, the patent emphasizes the importance of keeping the un-welded center portion of the splint intact so that it can function as a hinge. Further, as discussed above, a continuous weld completely across the splint would create a non-functional product.

[4] The additional arguments supporting patentability (e.g., surprising result and benefits) expressed above in regard to the rejection of claim 1 (using either Rotta or Lee et al. as the primary reference) are equally applicable to this rejection of claim 1 using Dye as the primary reference. These arguments are not repeated for the sake of brevity.

Claims 15 and 16

Claim 15 is an independent claim, and claim 16 depends from claim 15.

Claim 15 is directed to a compression apparatus for carrying out sequential compression vascular therapy on a patient. The apparatus comprises a sleeve configured to wrap about a leg and having boundary edges. The sleeve includes a thigh portion defining a first inflatable chamber having sub-chambers, a calf portion defining a second inflatable chamber having sub-chambers, and an ankle portion defining a third inflatable chamber having sub-chambers. The first, second and third inflatable chambers are arranged with respect to each other lengthwise along the sleeve to move blood lengthwise of the limb. The ankle portion of the sleeve includes a valve connector that for fluidly connecting a pressurized fluid source to the chambers via a tubular pathway, and the pressurized fluid is delivered from the pressurized fluid source to the various chambers to carry out vascular therapy. The tubular pathway comprises first tubing extending from the valve connector and fluidly connecting to the first expandable chamber, second tubing extending from the valve connector and fluidly connecting to the second expandable chamber, and third tubing extending from the valve connector and fluidly connecting to the third expandable chamber. The thigh portion of the sleeve is removably connected to the calf portion of the sleeve via perforations in the sleeve extending continuously across the sleeve from adjacent one boundary edge of the sleeve to adjacent an opposite boundary edge of the sleeve. The thigh and calf portions of the sleeve are located on opposite sides of the perforations whereby the sleeve may be torn along the perforations to completely remove the thigh portion from the calf portion while leaving the calf and ankle portions of the sleeve intact for delivery of fluid from said pressurized source to said second and third inflatable chambers arranged with respect to each other lengthwise along the sleeve to permit sequential compression vascular therapy on said limb after said thigh portion of the sleeve is removed. The first tubing of the tubular pathway is removable from the valve connector when the thigh portion is removed from the calf portion. The second tubing and third tubing remains attached to the valve connector when the thigh portion is removed from the calf portion to permit sequential inflation of the second and third inflatable chambers after said thigh portion of the sleeve is removed.

Claim 15 is similar to claim 1 in that it requires perforations in the sleeve along which the sleeve can be torn to completely remove one portion of the sleeve from another portion of the sleeve. Thus, claim 15 is allowable over Dye, Rotta, Lee et al., Islava and Arkans '244 for the same reasons expressed above regarding claim 1. For the sake of brevity, these reasons are not repeated here.

Clearly, therefore, claims 15 and 16 are allowable over the cited art.

Claim 17

Claim 17 depends from claim 15 and is allowable for the same reasons as claim 15.

Further, claim 17 states that the thigh and calf portions of the sleeve are connected by a flexible section of reduced width having a knee opening therein, and that the perforations extend across the flexible section at a location below the knee opening. (See Fig. 1 of the application, where the perforations are shown at 32 extending below the knee opening. The knee opening is numbered 81 in the replacement Fig. 1 submitted with the amendment filed December 17, 2008.) Rotta, Lee et al., Islava and Arkans '244 fail to show a sleeve having a knee opening of any type. Dye discloses a compression sleeve having a knee opening 16, but Dye does not disclose applicants' claimed perforations, or where to locate such perforations relative to the knee opening. Accordingly, for this additional reason, the combination of Dye, Rotta, Lee et al., Islava, and Arkans '244 cannot make the subject matter of claim 17 obvious.

Claims 18-20

Claim 18 is an independent claim, and claims 19-20 depend from claim 18.

Claim 18 is directed to a method of performing sequential compression on the limb of a body. The method includes a number of steps, including the steps of: disposing the sleeve about the limb; delivering pressurized fluid to the first inflatable chamber, the second inflatable chamber and the third inflatable chamber to inflate the chambers in a sequence for moving blood lengthwise of the limb; completely removing the first portion of the sleeve from the second portion of the sleeve by tearing the sleeve along perforations in the sleeve; and delivering a pressurized fluid to inflate the second and

third inflatable chambers in a sequence for moving blood lengthwise of the limb after the first portion of the sleeve is removed from the second portion of the sleeve.

Dye, Rotta, Lee et al., Islava and Arkans '244 fail to show or suggest the method of claim 18. In this regard, Dye, Rotta, Lee et al. and Arkans do not show "tearing" of any type. As explained above in detail regarding claim 1, Islava teaches only partial tearing of an inflatable splint while maintaining a hinge area (e.g., area 29 in Fig. 1b) intact so that it can function as a hinge connecting the partially-torn splint portions. Further, any attempt to tear completely across the sleeve would deflate the splint and render it inoperable for its intended purpose. (See MPEP 2143.01(V) stating that "If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.) Thus, Islava actually teaches away from applicants' claimed step of completely removing a first portion of a sleeve from a second portion of the sleeve by tearing along perforations in the sleeve. Still further, the express purpose of Islava's splint is to immobilize and stabilize an injured limb (see col. 1, lines 54-61; col. 5, lines 1-5) stabilize a bent limb (col. 1, line 58), not to perform sequential compression in accordance with applicants' claimed method. Therefore, as a threshold matter, the skilled person would not view the teachings of Islava as even being relevant to applicants' claimed method.[5]

Further, Arkans '219 fails to show or suggest the invention of claim 18 for the same reasons explained above in regard to claim 1.

For these reasons, claim 18 is allowable.

Claim 22

Claim 22 is directed to a compression apparatus for carrying out sequential compression vascular therapy on a patient. The apparatus comprises an expandable sleeve configured for disposal about a leg, the sleeve having boundary edges. The sleeve extends a length from below a knee of the leg to above the knee. The sleeve is convertible from the length extending from below the knee to above the knee, to a length

[5] The additional arguments supporting patentability (e.g., surprising result and benefits) expressed above in regard to claim 1 are equally applicable to claim 18. These arguments are not repeated with respect to claim 18 for the sake of brevity.

extending solely below the knee by tearing an inflatable thigh portion of the sleeve completely away from inflatable calf and ankle portions of the sleeve along perforations in the sleeve extending continuously across the sleeve from adjacent one boundary edge of the sleeve to adjacent an opposite boundary edge of the sleeve. The perforations are configured such that the calf and ankle portions of the sleeve remain intact after the thigh portion is torn away to permit sequential inflation of the calf and ankle portions whereby sequential compression vascular therapy on the patient can be carried out after the thigh portion of the sleeve is removed.

Claim 22 is similar to claim 1 in that it requires perforations in the sleeve along which the sleeve can be torn to completely remove one portion of the sleeve from another portion of the sleeve, and that the calf and ankle portions of the sleeve remain intact after the thigh portion is torn away to permit sequential inflation of the calf and ankle portions whereby sequential compression vascular therapy on the patient can be carried out after the thigh portion of the sleeve is removed. Thus, claim 22 is allowable over Dye, Rotta, Lee et al., Islava and Arkans '244 for the same reasons expressed above regarding claim 1. For the sake of brevity, these same reasons are not repeated here.

Further, Arkans '219 fails to show or suggest the invention of claim 22 for at least the reasons that there is no disclosure of perforations for tearing one portion of a compression device from another portion, and no disclosure of performing sequential inflation of calf and ankle portions of a compression sleeve after such tearing.

Claim 24

Claim 24 depends from claim 22 and is allowable for the same reasons as claim 22.

In addition, claim 24 states that the thigh and calf portions of the sleeve are connected by a flexible section of reduced width having a knee opening therein, and that the perforations extend across the flexible section at a location below the knee opening. (See Fig. 1 of the application, where the perforations are shown at 32 extending below the knee opening. The knee opening is numbered 81 in the replacement Fig. 1 submitted with applicants' amendment filed December 17, 2008.) Rotta, Lee et al., Islava and Arkans '244 fail to show a sleeve having a knee opening of any type. Dye discloses a

compression sleeve having a knee opening 16, but Dye does not disclose applicants' claimed perforations, or where such perforations should be located relative to the knee opening. Accordingly, for this additional reason, the combination of Dye, Rotta, Lee et al., Islava and Arkans cannot make the subject matter of claim 24 obvious.

Claim 25

Claim 25 is directed to a method of performing sequential compression on a limb of a body comprising the steps of: providing an expandable sleeve configured for disposal about a leg; disposing the sleeve about the limb such that the sleeve extends a length from below a knee of the leg to above the knee;
sequentially delivering pressurized fluid to inflatable ankle, calf and thigh portions of the sleeve to move blood lengthwise of the limb of the patient; deflating the ankle, calf and thigh portions of the sleeve; and converting the sleeve from the length extending from below the knee to above the knee, to a length extending solely below the knee by tearing the sleeve along perforations in the sleeve to completely remove the thigh portion of the sleeve extending above the knee, the perforations being configured such that the calf and ankle portions of the sleeve remains intact after the thigh portion is torn away to permit sequential inflation of the calf and ankle portions after said thigh portion of the sleeve is removed.

Claim 25 is similar to claim 18 in that it requires complete removal of one portion of a sleeve from another by tearing along perforations in the sleeve, and that the perforations are configured such that the calf and ankle portions of the sleeve remain intact after the thigh portion is torn away to permit sequential inflation of the calf and ankle portions after the thigh portion of the sleeve is removed. Thus, claim 25 is allowable over Dye, Rotta, Lee et al., Islava and Arkans '244 for the same reasons expressed above regarding claim 18. For the sake of brevity, these same reasons are not repeated here.

Further, Arkans '219 fails to show or suggest the invention of claim 25 for at least the same reasons as claim 18, i.e., there is no disclosure of perforations for tearing one portion of a compression device from another portion, and no disclosure of performing sequential inflation of calf and ankle portions of a compression sleeve after such tearing.

Claim 26

Claim 26 depends from claim 22 and is allowable for the same reasons as claim 22.

In addition, claim 26 states that the thigh and calf portions of the sleeve are connected by a flexible section of reduced width having a knee opening therein, and that the perforations extend across the flexible section at a location below the knee opening. (See Fig. 1 of the application, where the perforations are shown at 32 extending below the knee opening. The knee opening is numbered 81 in the replacement Fig. 1 submitted with applicants' amendment filed December 17, 2008.) Rotta, Lee et al., Islava and Arkans '244 fail to show a sleeve having a knee opening of any type. Dye discloses a compression sleeve having a knee opening 16, but Dye does not disclose applicants' claimed perforations, or where such perforations should be located relative to the knee opening. Accordingly, for this additional reason, the combination of Dye, Rotta, Lee et al., Islava and Arkans cannot make the subject matter of claim 26 obvious.

Claim 28

Claim 28 depends from claim 1 and is allowable for the same reasons as claim 1.

Further, claim 28 states that applicants' apparatus further comprises first tubing extending from the connector and fluidly connecting to the first expandable chamber, second tubing extending from the connector and fluidly connecting to the second expandable chamber, and third tubing extending from the connector and fluidly connecting to the third expandable chamber. The first tubing comprises a quick disconnect port permitting easy removal of the first tubing from a downstream side of the connector when the first portion of the sleeve is removed from the second portion of the sleeve. The second tubing and the third tubing remain attached to the connector when the first portion of the sleeve is removed from the second portion of the sleeve.

The examiner argues that Arkans discloses a similar arrangement. However, in Arkans, the two downstream tubes 50a, 50b supplying fluid to the cuffs 36, 38 remain attached to the downstream connector 44 at all times. There is no disclosure or

suggestion whatsoever that one tube can be removed from the downstream side of the connector 44.

The connector/tubing/quick disconnect port arrangement of claim 28 is efficient, economical, and allows the first portion of the sleeve to be easily removed from the second portion of the sleeve. Accordingly, claim 28 is submitted as patentable for this additional reason.

Claim 29

Claim 29 is directed to a compression apparatus adapted for inflation and deflation by a pressurized fluid source for carrying out sequential compression vascular therapy on a patient. The apparatus comprises a sleeve configured for disposal about a limb and having boundary edges. The sleeve includes a first portion defining a first expandable chamber and a second portion defining a second expandable chamber and a third expandable chamber, the first, second and third expandable chambers being arranged with respect to each other lengthwise along the sleeve to move blood lengthwise of the limb. The second portion of the sleeve includes a connector for fluidly connecting the pressurized fluid source to the first expandable chamber, the second expandable chamber and the third expandable chamber. The fluid is delivered from the pressurized fluid source to said chambers to carry out vascular therapy. Perforations in the sleeve extend continuously across the sleeve from adjacent one boundary edge of the sleeve to adjacent an opposite boundary edge of the sleeve. The first and second portions of the sleeve are located on opposite sides of the perforations. The sleeve is torn along the perforations to completely remove the first portion of the sleeve from the second portion of the sleeve while leaving the second portion of the sleeve intact for delivery of fluid from the pressurized source to the second and third expandable chambers arranged with respect to each other lengthwise along the sleeve to permit sequential compression vascular therapy on the limb after the first portion of the sleeve is removed. The apparatus also includes first tubing extending from the connector and fluidly connecting to the first expandable chamber, second tubing extending from the connector and fluidly connecting to the second expandable chamber, and third tubing extending from the connector and fluidly connecting to the third expandable chamber. The first tubing

comprises a quick disconnect port communicating with a fluid port in said connector permitting easy removal of the first tubing from a downstream side of the connector when the first portion of the sleeve is completely removed from the second portion of the sleeve. The second tubing and the third tubing remain attached to the connector when the first portion of the sleeve is removed from the second portion of the sleeve. The connector comprises a valve for partially closing the fluid port when the first tubing is removed from the connector. The fluid continues to flow from the fluid port such that the inflation and deflation by the pressurized fluid source is able to continue without interruption.

Claim 29 is similar to claim 1 in that it requires perforations in the sleeve along which the sleeve can be torn to completely remove a first portion of the sleeve from a second portion of the sleeve, and that the second portion of the sleeve remains intact for delivery of fluid from the pressurized source to the second and third expandable chambers arranged with respect to each other lengthwise along the sleeve to permit sequential compression vascular therapy on the limb after the first portion of the sleeve is removed. Thus, claim 29 is allowable over Dye, Rotta, Lee et al., Islava and Arkans '244 for the same reasons expressed above regarding claim 1. For the sake of brevity, these same reasons are not repeated here.

In addition, claim 29 states that the connector comprises a fluid port and a valve which functions to only partially close the fluid port when the first tubing leading to the tear-away portion of the sleeve is removed from the connector. Because the valve only partially closes, fluid is able to continue to flow from the fluid port, and inflation and deflation of the two (or more) chambers in the second portion of the sleeve may continue without interruption. In this regard, feedback information to the controller is necessary to achieve proper operation. If a portion of the sleeve is removed, this feedback is interrupted and would normally cause the controller to discontinue operation. However, when the sleeve is equipped with the valve connector of claim 29, pressurized fluid continues to flow through the fluid port even after a portion of the sleeve is torn away and the associated tubing is disconnected from the fluid port of the connector. This continued flow, resulting from only partial closure of the valve, simulates the flow characteristics prior to such disconnection so that the controller continues to operate as if the

disconnection had not occurred. (For further details of this valve connection, see page 8, lines 6-15, and page 12, lines 6-15, of the present application. See also Application Ser. No. 10/784,639, published August 25, 2005 as Publication No. 2005/01842645, incorporated by reference in this application.)

Dye, Rotta, Lee et al., Islava and Arkans '244 are completely devoid of any showing or suggestion of a connector comprising a fluid port and a valve for only partially closing the fluid port when the first tubing leading to the tear-away portion of the sleeve is removed from the connector. For this additional reason, claim 29 is allowable.

Claim 30

Claim 30 depends from claim 29 and is allowable for the same reasons as claim 29.

In addition, claim 30 states that the valve of the connector is movable when the first tubing is removed from the connector to reduce fluid flow from the pressurized fluid source through the fluid port of the connector to a level approximating flow to the first expandable chamber prior to removal of the first portion of the sleeve from the second portion of the sleeve. As discussed above, this feature is advantageous because it maintains continuity with the pressurized fluid source so that vascular therapy can continue without interruption after the first portion of the sleeve is removed by tearing along the perforations. (See page 12, lines 6-15 of the present application.) There is no disclosure or suggestion of this feature in the cited prior art.

Claim 31

Claim 31 depends from claim 29 and is allowable for the same reasons as claim 29.

In addition, claim 31 states that the first and second portions of the sleeve are connected by a flexible section of reduced width having a knee opening therein, and that the perforations extend across the flexible section at a location below the knee opening. (See Fig. 1 of the application, where the perforations are shown at 32 extending below the knee opening. The knee opening is numbered 81 in the replacement Fig. 1 submitted

with applicants' amendment filed December 17, 2008.) Rotta, Lee et al., Islava and Arkans '244 fail to show a sleeve having a knee opening of any type. Dye discloses a compression sleeve having a knee opening 16, but Dye does not disclose applicants' claimed perforations, or where such perforations should be located relative to the knee opening. Accordingly, for this additional reason, the combination of Dye, Rotta, Lee et al., Islava and Arkans cannot make the subject matter of claim 24 obvious.

Claims 12, and 28-30 are Not Obvious in view of Dye (US 5,795,312) in view of either Rotta (US 3,862,629) or Lee et al. (US 3,826,249) in combination with Islava (US 6,719,711 and further in view of Arkans (US 6,062,244) and Mitchell (US 2,638,915).

Claims 12 and 28

Claims 12 and 28 depend from claim 1. They are allowable for the same reasons as claim 1 in that none of the references cited teach completely removing a first portion of a compression sleeve from a second portion of the sleeve by tearing the sleeve along a line of perforations, and leaving the second portion of the sleeve intact for delivery of fluid from the pressurized source to the second and third expandable chambers arranged with respect to each other lengthwise along the sleeve to permit sequential compression vascular therapy on the limb after the first portion of the sleeve is removed, all as set forth in claim 1. For the sake of brevity, the arguments set forth above regarding the patentability of claim 1 are not repeated here.

Claims 29

Claim 29 is similar to claim 1 in that it requires perforations in the sleeve along which the sleeve can be torn to completely remove a first portion of the sleeve from a second portion of the sleeve, and leaving the second portion of the sleeve intact for delivery of fluid from a pressurized source to the second and third expandable chambers arranged with respect to each other lengthwise along the sleeve to permit sequential compression vascular therapy on the limb after the first portion of the sleeve is removed. Thus, claim 29 is allowable over Dye, Rotta, Lee et al., Islava, Arkans and Mitchell, none of which show or suggest completely removing one portion of a compression sleeve from another portion by tearing along perforations extending across the sleeve. Indeed, the

only cited prior art showing perforations is Islava, and this reference does not teach applicants' invention for the reasons expressed above regarding claim 1. For the sake of brevity, these same reasons are not repeated here.

In addition, claim 29 states that the connector comprises a fluid port and a valve which functions to only partially close the fluid port when the first tubing leading to the tear-away portion of the sleeve is removed from the connector. Because the valve only partially closes, fluid is able to continue to flow from the fluid port, and inflation and deflation of the two (or more) chambers in the second portion of the sleeve may continue without interruption. As explained previously, feedback information to the controller is necessary to achieve proper operation. If a portion of the sleeve is removed, this feedback is interrupted and would normally cause the controller to discontinue operation. However, when the sleeve is equipped with the valve connector of claim 29, pressurized fluid continues to flow through the fluid port even after a portion of the sleeve is torn away and the associated tubing is disconnected from the fluid port of the connector. This continued flow simulates the flow characteristics prior to such disconnection so that the controller continues to operate as if the disconnection had not occurred. (For further details of this valve connection, see page 8, lines 6-15, and page 12, lines 6-15, of the present application. See also Application Ser. No. 10/784,639, published August 25, 2005 as Publication No. 2005/01842645, incorporated by reference in this application.)

Dye, Rotta, Lee et al., Islava and Arkans are completely devoid of any showing or suggestion of a connector comprises a fluid port and a valve for only partially closing the fluid port when the first tubing leading to the tear-away portion of the sleeve is removed from the connector.

The examiner argues it would have been obvious in view of Mitchell to modify Dye to include a coupling means so that one can disconnect the tubular pathway to the first portion of the sleeve and still be able to operate the second portion by itself. However, Mitchell fails to show or suggest the same connector connecting a first tubing, a second tubing and a third tubing to respective expandable chambers, as required by claim 28. Moreover, when Mitchell's disconnect ports 60 are disconnected from the coupling unit 10, the valve members 98, 140 close to seal the coupling sections 59, 60 and the detached conduit sections 12, 14 (column 8, lines 60-64). There is no flow

through the closed valve members 98 after disconnection. This is in direct contradiction to claim 29 which states that the connector comprises a fluid port and a valve for only partially closing the fluid port when the first tubing leading to the tear-away portion of the sleeve is removed from the connector. As discussed above, applicants' claimed valve feature is advantageous because allowing continued flow through the port vacated by the first tubing maintains continuity with the pressurized fluid source so that vascular therapy can continue without interruption after the first portion of the sleeve is removed by tearing along the perforations.

Claim 30

Claim 30 depends from claim 29 and is allowable for the same reasons as claim 29.

In addition, claim 30 states that that the valve of the connector is movable when the first tubing is removed from the connector to reduce fluid flow from the pressurized fluid source through the fluid port of the connector to a level approximating flow to the first expandable chamber prior to removal of the first portion of the sleeve from the second portion of the sleeve. As discussed above, this feature is advantageous because it maintains continuity with the pressurized fluid source so that vascular therapy can continue without interruption after the first portion of the sleeve is removed by tearing along the perforations. (See page 12, lines 6-15 of the present application.) There is no disclosure or suggestion of this feature in the cited prior art.

New Claims 32 and 33

Claim 32 depends from claim 17 and is submitted to be allowable for the same reasons as claim 17. Further, the claim states that the first tubing (e.g., tubing 68 in Fig. 1 of the application) extends from the connector (e.g., 28) over the perforations (e.g., 32) at one side of the knee opening in the sleeve. The prior art fails to show or suggest this design, which provides for a more compact arrangement of the tubing.

Claim 33 also depends from claim 17 and is submitted to be allowable for the same reasons as claim 17. Further, the claim states that the first tubing is not connected to the ankle portion of the sleeve. This arrangement, which facilitates removal of the

thigh portion of the sleeve from the remainder of the sleeve, is not shown or suggested by the prior art of record, including Dye where the thigh tubing 46d is connected to the ankle portion of the sleeve.

Information Disclosure Statement

An information disclosure statement is submitted with this Amendment.

CONCLUSION

In view of the foregoing, applicants request withdrawal of the final rejection and allowance of the application.

The Commissioner is hereby authorized to charge any fees and credit any overpayment to Deposit Account No. 190254.

Respectfully submitted,

Michael E. Godar, Reg. No. 28416
SENNIGER POWERS LLP
100 North Broadway, 17th Floor
St. Louis, Missouri 63102
(314) 231-5400

MEG/bcw